

REMARKS

In light of the foregoing amendments and remarks to follow, Claims 20-34, which are in the application avoid or overcome the standing rejection, as follows. Applicants have overcome the objection to the claims by correcting the spelling of the term "pycnometric". Applicants have overcome the rejection of Claims 20-34 under 35 USC 103 as being unpatentable over Linde '988 or EP 802241, and the rejection of Claims 2-25, 28-32 under judicially created doctrine of obviousness-type double patenting over Claims 1-19 of Linde '988 by the amendments and remarks as follow.

Distinctly the claims cover carbon black pigments, which are surprisingly, at once stable and have elevated color intensity greater than 100, and the process for preparing the same by the application of relatively higher pressures including multiple compaction. These results are rather unexpected and are not taught or suggested by Linde '988

The patentable distinction is more fully established hereunder by presenting a summary of the invention, the basis for the rejections and how they are avoided or overcome by the claims as amended.

Summary of the Invention

The invention encompasses carbon black pigment which combines mechanical stability with elevated color intensity as well as technically simple, low cost process which yield dispersible, low density carbon black pellets which are stable in transport and easy to use. See the captioned application at page 2, lines 19-22.

Surprisingly said pigments have been obtained through the application of relatively high pressures (compared to the state of the art pressures) and/or repeated compaction to produce greater pellet stability and astonishingly simultaneous greater color intensity. See the captioned application at page 4, lines 1-3.

Heretofore, the art including the cited reference has not taught the inventive concept of application of relatively high pressures to produce carbon black pigments, which are at one stable and have greater color intensity.

Statement of the Rejections

The 35 U.S.C. 103(a) rejection over Linde is based on the grounds that:

"Linde and EP '241 each suggest the instantly claimed process which would appear to also produce the instantly claimed product (see cols. 4,5,8 and 9 and the claims of Linde). The taught briquette is the same as the instantly claimed pellet"

To support the above conclusion the Examiner reasoned that:

"The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, *In re Malagari*, 182 USPQ 549."

The Examiner then noted that:

"Where the examiner has found a substantially similar product as in the applied prior art the burden of proof is shifted to the applicant to establish that their product is patentably distinct, see *In re Best*, 195 USPQ 430."

The double patenting rejection is similarly predicated on the Examiner's conclusion that:

"The taught briquet is equivalent to the instantly claimed pellet. The taught process is the same as that instantly claimed therefore the instantly claimed carbon black pellets having a "quotient of pycnometric density and bulk density between 3.0 and 10" would also be obtained by the patented process."

To support the conclusion, the Examiner reasoned that:

"It would have been obvious to one skilled in the art to recover the instantly claimed product from the taught process in order to use it as a colorant. It would have been obvious to one skilled in the art *to exclude the last two steps of the patented process along with the function it provides as it is not desired by the instant process*, *In re Larson* 144 USPQ 347 or *In re Wilson* 153 USPQ 740." (Our emphasis).

Statement of How the Claims Avoid or Overcome the Rejections

Applicants traverse the rejection because a fair reading of Linde would show that its pigments and processes for preparing the same differ from the claims in a manner that is not taught or suggested thereby. Applicants respectfully submit that there is no

evidence of record suggesting that the proposed modification of the prior art by eliminating steps of the Linde '988 process would lead to the claims.

In point of fact, Applicants note that the statement that "taught briquette is the same as the instantly claimed pellet" is without support. To the contrary, the claimed pellet is distinguished by the surprising results of simultaneous stability and color intensity of greater than 100 which results from the application of relatively higher pressures and/or compaction.

To expedite the prosecution, however, the claims have been amended to more clearly and distinctly recite the application of relatively high pressures and/or multiple compaction.

For the sake of completeness, Applicants discuss and distinguish Linde with particular reference to the following proposition for which it was cited:

"Linde and EP '241 each suggests the instantly claimed process which would appear to also produce the instantly claimed product (see cols. 4,5,8,9, and the claims of Linde). The taught briquette is the same as the instantly claimed pellet."

With all due respect to the Examiner, this conclusion is incorrect. The differences between the taught briquette and the instantly claimed pellets are discussed in the context of:

- 1) the properties of color intensity, relative to now-recited claim elements of compaction and binders composition;
- 2) clarification of the measurement of color intensity; and
- 3) clarification of Example 2 in Linde.

With regard to color intensity, Applicants first note that Claim 20 has been amended to now require that the carbon black pellets in the instant invention have relative color intensity, based on the uncompacted carbon black powder, of greater than 100%. A review of Linde '988 generally and particularly as illustrated by Table 1, clearly demonstrates that none of the briquettes manufactured pursuant to the process taught by Linde '988 exceeds 100% (please refer to Table 1 under col. 8, line 54). Linde '988 thereby measured the color intensity of the carbon black powder against the corresponding starting powder in concrete (Example 1 as set forth in col. 8., lines 21-24). It is, therefore, clear that the Linde '988 briquettes are not the same as the pellets in the instant invention.

With regard to color intensity relative to multiple compaction it is of note that the compaction of a pellet two or more times results in a more highly compacted pellet. Such a multiple compaction should therefore impede dispersibility and thereby reduce relative color intensity. However, the opposite effect has surprisingly been observed in the instant application. All the pellets in Table 1 and Table 2 of the captioned application, which were compacted more than once demonstrate a relative color intensity of greater than 100%. Please note thereby, that a Vacupress also represents a compaction step (page 8, lines 1-3 of the captioned application).

With regard to color intensity relative to the addition of binders and/or dispersants, it is of note that Claim 20 has also been amended to clearly distinguish the amount of binders and/or dispersants added to the carbon black pellets from that of Linde '988. Claim 20 of the instant invention as amended now allows for a total quantity of binders and/or dispersants of between 10 to 25 wt.%, based on the weight of the pellets. The sale pellet in the instant application where a single compaction was undertaken and which demonstrated relative color intensity in excess of 100% is the fifth example in Table 1. Said pellet differs from that of Linde '988 in that 12.5% of binders and/or dispersants were added (10% polyethylene glycol and 2.5% ammonium lignin sulfonate). The claims of Linde '988 are, however, limited to 10% auxiliary substances by weight of the carbon blacks used (please refer to Claim 8 in col. 10, lines 24-26). The pellets of the instant application are therefore distinguishable from the briquettes of Linde '988 with regard to the amount of binders/dispersants/auxiliary substances added.

With regard to color intensity relative to multiple compaction and the addition of binders and/or dispersants, it is of note that the amendment to Claim 20 lastly allows for both multiple compaction and the addition of binders and/or dispersants as set forth above. The arguments set forth above also apply hereto.

In view of the foregoing, Applicants respectfully submit that the obviousness rejection based on overlapping ranges is made mute by the aforementioned amendment to Claim 20. It is clear that the ranges no longer overlap for the addition of binders and/or dispersants/auxiliary substances.

Also in view of the foregoing, Applicants respectfully submit that the briquettes of Linde '988 are different from the pellets of the instant application in that

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the pellets in the instant application have a relative color intensity of greater than 100%. The briquettes of Linde '988 also differ from the pellets of the instant application in that the pellets in the instant application have been compacted twice.

It seems to Applicants that clarification of the measurement of color intensity would aid in distinguishing the claims. The Examiner has stated that the instantly claimed compacted carbon black cannot be directly compared to that of Linde '988, because the claims of the instant application do not require that the relative color intensity be measured in concrete as it is in Linde '988. Applicants hereby submit that the compacted carbon black can indeed be compared directly to that taught in Linde '988. In this regard, Applicants direct the Examiner to Linde '988 which states that:

"The relative color intensity in concrete was determined compared with the corresponding starting powder. Also the relative color intensity in concrete was converted in relation to the pigment content in the granules (theoretical value)." Please refer to col. 8, lines 21-25 as well as to the information set forth in col. 6, lines 49 -67.

The instant application likewise compares the relative color intensity in concrete with the corresponding starting powder. Please refer to pages 5-6 of the instant application. Particular emphasis is placed on page 6, lines 6-7, where reference to DIN 55986/A is made. Said DIN determines the relative color intensity of a product against its starting powder in concrete.

It also seems to Applicants that clarification of Example 2 in Linde '988 would aid in distinguishing the claims. Some confusion appears to have arisen with respect to what Example 2 in Linde '988 attempts to demonstrate. Example 2 attempts to demonstrate the solidity of the product through its dust behavior. It is for this reason that one portion of the comminuted product was separated into two fractions using a screen resulting in one fraction with particles larger than 250 mm. This fraction demonstrated good flowability.


The other portion of the comminuted product was then granulated, whereby the fines were granulated on the bigger granules. This fraction likewise demonstrated good flowability. Said other portion of after-granulated material, however, contained considerably more dust (1,328 mg of dust compared to 548 mg of dust - please refer to Example 2 in col. 8, lines 37 to 54).

Example 2 does not therefore have anything to do with relative color intensity. It addresses the issue of low dust, an issue which was listed as the object of the invention ("is low in dust" as set forth in col. 3 line 32).

Net: In view of the foregoing amendments and remarks clearly distinguishing the claims over Linde, Applicants submit that the claims are patentably distinct. The Examiner would be justified in allowing the claims as amended. Applicants therefore pray for allowance of the claims.

Respectfully submitted,

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